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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,980

09/20/2005

Chad Leverette

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CARGILL, INCORPORATED

LAW/24

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EXAMINER

GEISEL, KARA E

ART UNIT

PAPER NUMBER

2877

MAIL DATE

DELIVERY MODE

07/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/549,980

Applicant(s)

LEVERETTE ET AL.

Examiner

Kara E. Geisel

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>0905</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Preliminary Amendment

The preliminary amendment filed on filed September 20th, 2005, has been entered into this application.

Information Disclosure Statement

The information disclosure statement filed Sept 20th, 2005 has been considered by the examiner.

Drawings

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Claim Objections

Claim 14 is objected to because of the following informalities: improper grammar.

In regards to claim 14, line 2, "comprises uses" needs to be changed to --comprises using-- in order to correct the grammar of the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a

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patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Xu et al.

(USPN 6,069,690).

In regards to claim 1, Xu discloses an apparatus comprising an automated (column 4, lines 20-27) polarized light microscope (figs. 1-2, 110) combined with spectroscopic means (120).

In regards to claim 2, the spectroscopic means are utilized in accordance with at least one Raman spectroscopic technique (column 9, lines 4-24 and column 10, lines 22-44).

In regards to claim 3, the at least one Raman spectroscopic technique comprises using a microscope (fig. 2).

In regards to claim 11, the spectroscopic means are utilized in accordance with at least one visible spectroscopic technique (column 9, lines 4-5).

In regards to claim 12, the spectroscopic technique comprises using a microscope (fig. 2).

Claims 1, 4-15 and 18-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Wack et al. (US Pubs 2002/0107650) as evidenced by Alumot et al. (USPN 6,178,257).

In regards to claim 1, Wack discloses an apparatus comprising an automated polarized light microscope (page 43, ¶ 309; the device of figs. 3-7 is a device with two or more measurement systems combined, wherein one of the systems can be an automated polarized light microscope; page 29, ¶ 226 incorporates '257 as a possible system to be used, and '257 discloses an automated polarized light microscope in column 1, lines 63-67 and column 7, lines 8-55) combined with (pages 13-14, ¶s 89, and 96) spectroscopic means (page 13, ¶ 89; wherein one of the systems would be a spectroscopic scatterometer or reflectometer).

In regards to claim 4, the spectroscopic means are utilized in accordance with at least one mid-

infrared spectroscopic technique (page 25, ¶ 198).

In regards to claim 5, the spectroscopic technique comprises using a microscope (figs. 3-7).

In regards to claim 6, the spectroscopic technique utilizes interferometric data acquisition (page 21, ¶ 169).

In regards to claim 7, the spectroscopic means are utilized in accordance with at least one near-infrared spectroscopic technique (page 25, ¶ 198).

In regards to claim 8, the spectroscopic technique comprises using a microscope (figs. 3-7).

In regards to claim 9, the spectroscopic means are utilized in accordance with at least one ultraviolet spectroscopic technique (page 25, ¶ 198).

In regards to claim 10, the spectroscopic technique comprises using a microscope (figs. 3-7).

In regards to claim 11, the spectroscopic means are utilized in accordance with at least one visible spectroscopic technique (page 25, ¶ 198).

In regards to claim 12, the spectroscopic technique comprises using a microscope (figs. 3-7).

In regards to claim 13, the spectroscopic means are utilized in accordance with at least one luminescence spectroscopic technique (page 46, ¶ 331).

In regards to claim 14, the spectroscopic technique comprises using a microscope (figs. 3-7).

In regards to claim 15, Wack discloses an apparatus comprising an automated polarized light microscope (page 43, ¶ 309; the device of figs. 3-7 is a device with two or more measurement systems combined, wherein one of the systems can be an automated polarized light microscope; page 29, ¶ 226 incorporates '257 as a possible system to be used, and '257 discloses an automated polarized light microscope in column 1, lines 63-67 and column 7, lines 8-55) combined with (pages 13-14, ¶s 89, and 96) spectroscopic means having means for spectral imaging (page 79, ¶ 546).

In regards to claim 18, the spectroscopic means are utilized in accordance with at least one mid-infrared spectroscopic technique (page 25, ¶ 198).

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In regards to claim 19, the spectroscopic technique comprises using a microscope (figs. 3-7).

In regards to claim 20, the spectroscopic means are utilized in accordance with at least one near-infrared spectroscopic technique (page 25, ¶ 198).

In regards to claim 21, the spectroscopic technique comprises using a microscope (figs. 3-7).

In regards to claim 22, the spectroscopic means are utilized in accordance with at least one ultraviolet spectroscopic technique (page 25, ¶ 198).

In regards to claim 23, the spectroscopic technique comprises using a microscope (figs. 3-7).

In regards to claim 24, the spectroscopic means are utilized in accordance with at least one visible spectroscopic technique (page 25, ¶ 198).

In regards to claim 25, the spectroscopic technique comprises using a microscope (figs. 3-7).

In regards to claim 26, the spectroscopic means are utilized in accordance with at least one luminescence spectroscopic technique (page 46, ¶ 331).

In regards to claim 27, the spectroscopic technique comprises using a microscope (figs. 3-7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner

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to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-3, 16-17 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wack et al. (US Pubs 2002/0107650), as evidenced by Alumot et al. (USPN 6,178,257), in view of Some et al. (US Pubs 2002/0109110).

In regards to claims 2, 16, and 28, Wack discloses the apparatus as described above. Wack is silent to using a Raman spectroscopic technique. However, it is disclosed that this apparatus is used for determining defects in a semiconductor device (page 16, ¶ 108 and page 17, ¶ 113).

Some discloses using a system combining two different measurement devices into one apparatus, in a similar manner to Wack's, for determining defects in a semiconductor device (page 2, ¶ 23). One of the measurement devices uses a Raman spectroscopic technique so that contaminants in the semiconductor device can be identified (page 3, ¶ 27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a Raman spectroscopic technique in Wack's apparatus in order to identify contaminants in the semiconductor device as one of the measurement systems for determining defects. Furthermore, the Raman spectroscopic technique has means for spectral imaging (Some page 5, ¶ 50).

In regards to claims 3, and 17, the spectroscopic technique comprises using a microscope (Wack figs. 3-7).

Additional Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art made of record is Modlin et al. (USPN 6,825,921), Treado et al. (USPN 7,123,360), and Nikoonahad et al. (US Pubs 2002/0093648).

Modlin, Treado, and Nikoonahad all disclose an apparatus comprising an automated polarized light microscope combined with spectroscopic means.

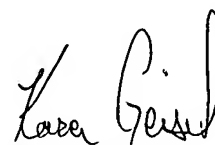
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E Geisel whose telephone number is **571 272 2416**. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on **571 272 2800 ext. 77**. The fax phone number for the organization where this application or proceeding is assigned is **571 273 8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kara E. Geisel
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July 3, 2007